

Claims:

- 5 1. An unlicensed-radio access network connected to a core network portion (20) of a licensed mobile network, said unlicensed-radio access network (30) including an access controller (303) connected to said core network portion, a fixed broadband network (302) connected to said access controller and having a plurality of access points (301), each said access point defining a mini-cell coverage area (304) and supporting an
- 10 unlicensed-radio interface permitting communication between mobile stations (1) located within a respective mini-cell and said access controller (303), characterised in that said access controller (303) is associated with one or more location areas in said licensed radio mobile network and
- 15 comprises a database (303 1) for storing the identification of mobile stations in association with address information of said mobile station on said fixed broadband network.
- 20 2. An access network as claimed in claim 1, characterised in that said database (3031) is adapted to store the identification of mobile stations in association with at least one specific access point (301) for the coverage area in which said mobile station is located.
- 25 3. An access network as claimed in claim 1 or 2, characterised in that said access point controller (303) is adapted to receive from said core network portion (20) a paging message containing the identification of a mobile station (1) located in the associated location area, to identify the at least one access point (301) associated with said identified mobile station and to
- 30 transmit said paging message to said identified at least one access point only.

4. An access network as claimed in any previous claim, characterised in that said access network controller (303) is adapted to receive from a mobile station (1) a message registering identification data for said mobile station and to store said new identification data in said database in association with address information for said mobile station on said fixed broadband network (302).
5
5. An access network as claimed in any previous claim, characterised in that said mobile station identification data is the international mobile subscriber identity (IMSI).
10
6. An access network as claimed in any previous claim, characterised in that said address information is a network address of said access points (301) on said fixed broadband network (302).
15
7. An access network as claimed in claim 6, characterised in that said address information relates identifies an access point (301) communicating with said mobile station.
20
8. An access network as claimed in any previous claim, characterised in that said access controller (303) is adapted to delete said identification data on receipt of a message from said access point (301) that said mobile station (1) is no longer communicating with said access point.
25
9. An access network as claimed in any one of claims 1 to 7, characterised in that said access network controller (303) is adapted to determine whether a connection with said mobile station is maintained and to delete said identification data on determining that said connection is no longer maintained.
30

10. An access network as claimed in any one of claims 1 to 9, characterised in that said database (3031) is adapted to store the identification of mobile stations in association with a group of access point (301) addresses,
5 wherein said unlicensed access network comprises more than one group of access points.

11. A method in an unlicensed-radio access network comprising a plurality of access points (301) adapted to communicate with mobile stations (1) over
10 an unlicensed-radio interface and an access controller (303) connected to said access points and to a core network portion of a licensed-radio cellular network, said method including the steps of:
receiving identification information specific to a mobile station from said mobile station,
15 registering said mobile station identification information in association with information identifying at least one access point in said access point controller.

12. A method as claimed in claim 11, further characterised by the steps of:
20 receiving in said access controller a message from said core network portion paging a mobile station,
retrieving information identifying at least one access point for said paged mobile, and
forwarding said paging message only to the at least one access point
25 identified in association with said registered mobile station identification information.

13. A method as claimed in claim 11 or 12, further characterised by the steps of:
30 updating said mobile station identification information on receipt of a

message from the access point identified in association with said mobile station identification information that said mobile station is no longer in communication with said access point.

5 14. A method as claimed in any one of claims 11 to 13, characterised in that said registering step includes registering said mobile station identification information in association with information identifying a group of access points in said access point controller.

10 15. A method in an unlicensed-radio access network comprising a fixed broadband network with plurality of access points (301) and an access controller (303) connected to said fixed broadband network and to a core network portion of a licensed-radio cellular network and adapted to communicate with mobile stations (1) over an unlicensed-radio interface
15 via said access points, said method including the steps of:
said access controller establishing communication with a mobile station using a network address on said fixed broadband network for said mobile station,
receiving identification information specific to a mobile station from said
20 mobile station,
registering said mobile station identification information in association with said mobile station network address on said fixed broadband network.

25 16. A method as claimed in claim 15, further characterised by the steps of:
receiving in said access controller a message from said core network portion paging a mobile station,
retrieving mobile station identification information registered for said paged mobile, and
forwarding said paging message only to the network address identified in
30 association with said registered mobile station identification information.

17. A method as claimed in claim 15 or 16, further characterised by the steps of:
- 5 said access point controller determining when a connection established with said mobile station is no longer maintained and deleting said mobile station identification information when it is determined that a connection is no longer maintained.